

CENTRAL VALLEY FLOOD MANAGEMENT PLANNING PROGRAM



CENTRAL VALLEY FLOOD PROTECTION PLAN

INTERIM PROGRESS SUMMARY NO. 2

DEVELOPMENT OF MANAGEMENT ACTIONS TO ADDRESS PROBLEMS AND OPPORTUNITIES
AND CONTRIBUTE TO CVFPP GOALS

December 1, 2010

PURPOSE

This second Interim Progress Summary for the Central Valley Flood Protection Plan (CVFPP) provides an overview of the CVFPP development process, summary of the results of Phase 2 planning efforts, and a look ahead to upcoming development activities.

2012 CVFPP DEVELOPMENT PROCESS

The California Department of Water Resources (DWR) is required to prepare the CVFPP by January 1, 2012, for adoption by the Central Valley Flood Protection Board by July 1, 2012. The plan will be updated every 5 years thereafter (in years ending in 7 and 2).

The CVFPP will be a sustainable, integrated flood management plan that describes existing flood risk in the Sacramento-San Joaquin Valley, and recommends actions to reduce the probability and consequences of flooding. As the first edition of this long-term planning document, the 2012 CVFPP will describe a broadly supported vision for improving integrated flood management in the Sacramento-San Joaquin Valley. Produced in partnership with federal, tribal, regional, and local partners and other interested parties, the 2012 CVFPP will also identify goals, principles, and objectives important in the planning process; identify the range of potential improvements to the State-federal flood protection system; and recommend actions to further define and implement future improvements.

The Central Valley Flood Management Planning (CVFMP) Program, one of several programs managed by DWR under FloodSAFE, addresses flood-related planning activities within the Central Valley that require State leadership and participation. Several documents are being prepared under the CVFMP Program to collectively meet requirements of flood legislation passed in 2007, including the Central Valley Flood Protection Act of 2008.

CVFPP Goals Identified in Phase 1

Primary Goal

- Improve Flood Risk Management

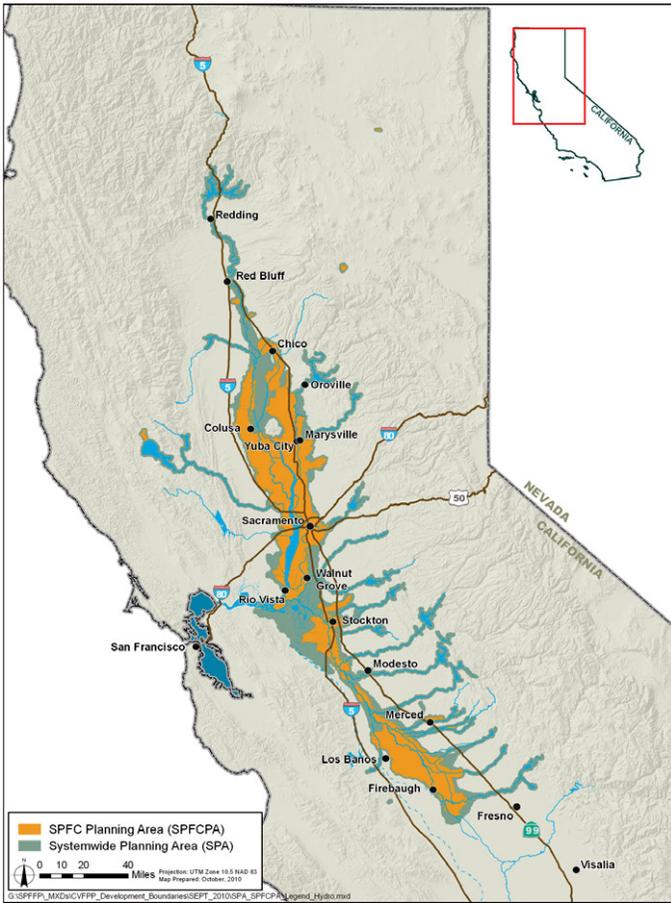
Supporting Goals

- Improve Operations and Maintenance
- Promote Ecosystem Functions
- Improve Institutional Support
- Promote Multi-Benefit Projects

The 2012 CVFPP will support and guide many subsequent implementation activities by State, federal, regional, and local agencies, including feasibility studies, project-specific environmental review, design, construction, and updates of existing or new local plans.



October 2010 Work Group Engagement Meeting



Planning Areas Relevant to the CVFPP

For planning and analysis purposes, and consistent with legislative direction, two geographical planning areas (shown on the map to the left) are important for CVFPP development:

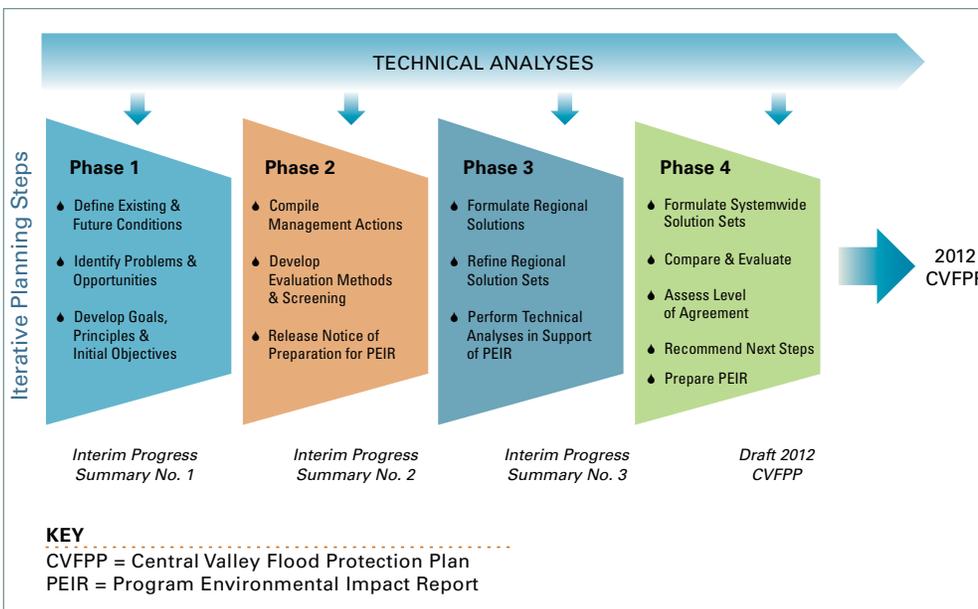
State Plan of Flood Control Planning Area – This area is defined by the lands currently receiving protection from facilities of the State Plan of Flood Control (SPFC). The State’s flood management responsibility is limited to this area, which is the focus of the CVFPP.

Systemwide Planning Area – This area includes lands that are currently protected by the facilities and operation of the Sacramento-San Joaquin River Flood Management System (California Water Code Section 9611). The SPFC Planning Area is completely contained within the Systemwide Planning Area.

The 2012 CVFPP is being developed using an iterative planning process completed in four phases, as shown in the figure below.

PHASE 2 EFFORTS

Phase 2 activities focused on developing a wide array of management actions (structural and nonstructural measures or actions) that can address one or more of the identified CVFPP goals. These developed management actions are not location-specific, and vary in their level of detail. They provide the building blocks for development of regional and systemwide solution sets, based on their regional and local applicability.



2012 CVFPP Planning Process

Management actions can be grouped in different ways to form solution sets. For the 2012 CVFPP, solution sets will be formulated to reflect several fundamentally different approaches to flood management. These solution sets will highlight tradeoffs associated with different approaches to flood management (such as long-term and short-term costs, types of benefits, and implementation time frames).

Management actions were evaluated based on their economic, environmental, social, and technical characteristics, and classified based on their ability to contribute to CVFPP goals. Those retained for further development and consideration in regional and systemwide solution sets can be described as either place-based or not place-based.

Place-based management actions implement or modify physical features or their operations to provide tangible benefits within a region or subregion. Depending on the scale and type of an applied management action, benefits could be realized locally, regionally, or even systemwide, resulting in potentially different implementation, operations and maintenance, and financial responsibilities.

In Phase 3 of CVFPP development, place-based management actions will be grouped in different ways to form regional solution sets, based on their regional and local applicability. Many of the Phase 2 activities were designed to assess community-specific and regional applicability of these management actions in preparation for the Phase 3 regional solution set discussion.

Management actions that are not place-based, but implement or modify policy, regulation, process, or other institutional arrangements (e.g., building code amendments or changes to financing mechanisms and revenue generation) will continue to be refined, and further developed in Phases 3 and 4.

Engagement

Partners and interested parties participated in Phase 2 through two different types of engagement venues, regional work groups and public workshops.

Consistent with Phase 1, **regional work groups** continued to anchor plan development, with a focus on management actions. Regional Management Action Work Groups were chartered to support identifying and evaluating management actions, and to discuss how management actions apply in different regions.

The regional work groups reflect a broad range of interests and perspectives. Work groups included many members of Phase 1 Regional Conditions Work Groups as well as new members representing various organizations, agencies, and private interests. A total of 15 Regional Management Action Work Group meetings took place during Phase 2, with each of the 5 regional groups (Upper Sacramento, Lower Sacramento, Delta, Upper San Joaquin, and Lower San Joaquin) meeting 3 times.

Two rounds of **public workshops** were held in Phase 2 to solicit comments and develop a common understanding of potential management actions for consideration in plan development. The first round included 11 workshops conducted in Sacramento during July 2010. This round focused on discussing draft management actions to refine intended uses and applications, and propose additional actions for consideration.

DWR posted workshop materials, including draft descriptions of each management action, on the CVFMP Web site 2 weeks before the sessions began, and provided electronic comment forms that could be used to submit new management actions or comments on draft actions. More than 400 people participated in the first round of workshops, by webinar and in person. Workshop participation is summarized graphically on the following page.

A second round of workshops was held in August and September 2010 to identify the applicability of the identified management actions in different community settings:

- Rural/agricultural areas
- Small communities
- Urban areas

An integration workshop focused on opportunities to strategically integrate environmental, water supply, and other benefits with management actions identified to address flood risk.



Community of Meridian Protected by Emergency Ring Levee During 1997 Flood

Summary of Phase 2 Findings

The table on pages 6 and 7 lists the 94 individual management actions that were identified, refined, and evaluated during Phase 2, grouped into 11 categories.

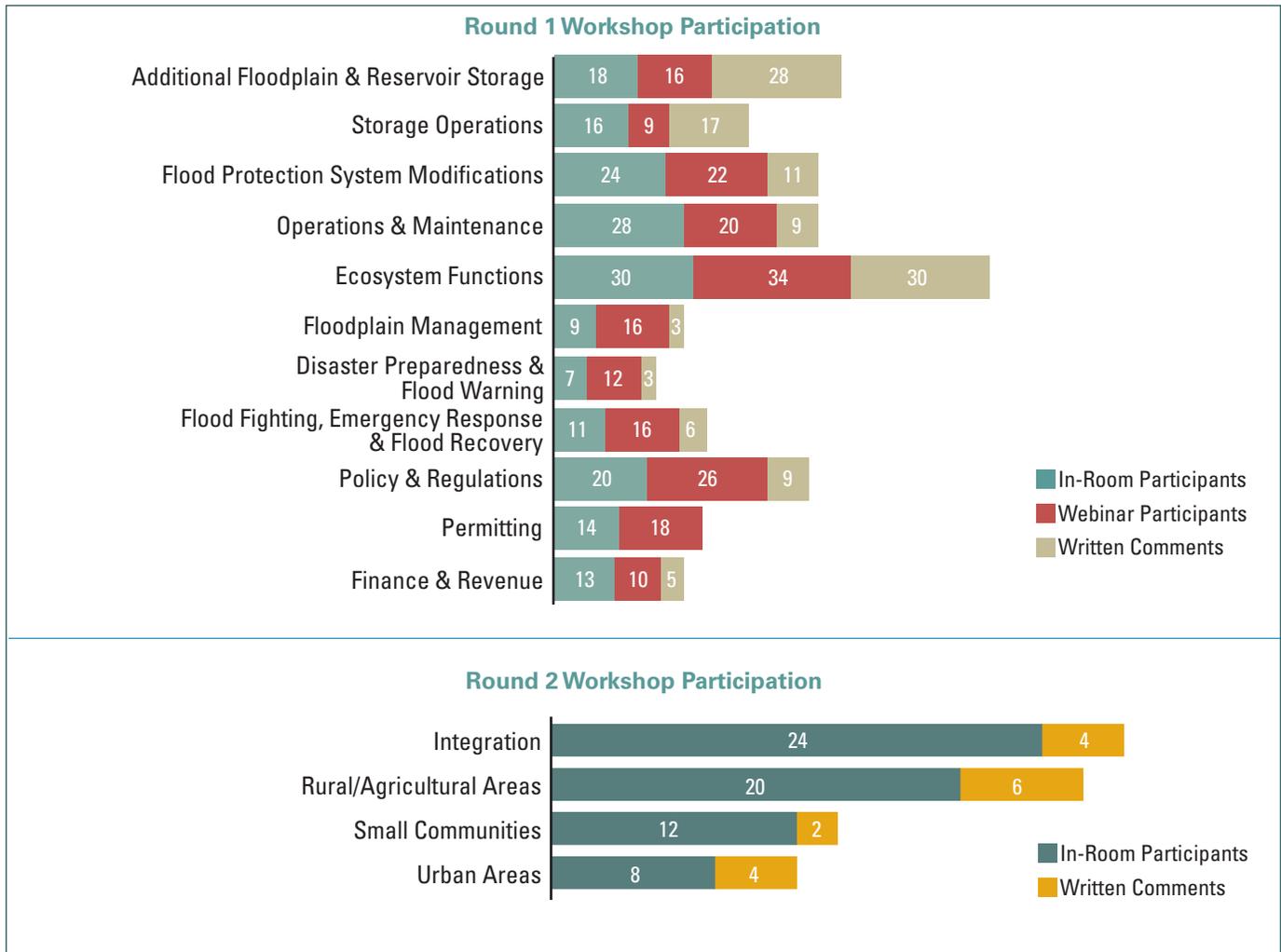
More details can be found in the 2010 Management Actions Report, which is available on the CVFMP Web site at www.water.ca.gov/cvfmp.

of the assessment process involved gathering views of partners and interested parties through meeting discussions, interviews, and surveys. Partners and interested parties offered constructive suggestions for improvement. DWR leadership is using this feedback in its design of future project phases. Results of the assessment can be found on the CVFMP Web site at www.water.ca.gov/cvfmp.

Engagement Assessment

As part of planning for future phases of work, the CVFPP team of contracted, neutral mediator-facilitators has assessed the current CVFPP communication and engagement process. Assessment goals were to summarize efforts to date, evaluate outcomes, extract key lessons learned, and provide recommendations for use in designing future public engagement. A key element

A comprehensive communication and engagement process with partners and interested parties is being implemented in each phase of development of the 2012 CVFPP, to share and solicit information, generate recommendations for plan content, and promote feedback.



OTHER CENTRAL VALLEY FLOOD MANAGEMENT PLANNING PROGRAM EFFORTS

The 2012 CVFPP is one of several important documents DWR is preparing in response to legislation passed in 2007. Work has progressed on two separate, but complementary, documents – the SPFC Descriptive Document and the Flood Control System Status Report – as described below.

The **SPFC Descriptive Document** inventories and describes flood control projects and works (facilities), lands, programs, plans, conditions, and mode of operations and maintenance for the State-federal flood protection system in the SPFC Planning Area. The 2010 version of the SPFC Descriptive Document was released in November 2010.

The public draft **Flood Control System Status Report** describes the status of the SPFC, including inspection and evaluation activities and flood risk in the Sacramento River and San Joaquin River watersheds; supporting map-based data describe the physical condition of levees, channels, and flood management structures of the SPFC at a reconnaissance level. The report concludes with recommendations to support the CVFPP regarding levees and future work activities. The public draft Flood Control System Status Report is scheduled to be released in early 2011. Information in the report will help DWR continue to enhance its core flood management programs, and inform development of the 2012 CVFPP.

In addition, the Climate Change Threshold Analysis Work Group completed concept development of a threshold analysis. This analysis establishes DWR's policy-level approach for addressing climate change in future flood management studies, based on recommendations of the Phase 1 Climate Change Scope Definition Work Group. The work group consisted of experts from the National Oceanic and Atmospheric Administration, United States Army Corps of Engineers, United States Department of the Interior, Bureau of Reclamation, United States Geological Survey, and DWR. The Work Group recommendations are available on the CVFMP Web site at www.water.ca.gov/cvfmp.

Also, public scoping meetings were held in Chico, Sacramento, and Modesto on November 15, 16, and 18, 2010, respectively, to initiate preparation of a program-level Environmental Impact Report, under the California Environmental Quality Act, to support adoption of the 2012 CVFPP by the Central Valley Flood Protection Board.

NEXT STEPS

Similar to Phases 1 and 2, it is anticipated that Phase 3 will include regional work groups and other potential engagement venues to help anchor development of regional solution sets. Different flood management approaches will be represented in several regional solution sets. These solution sets will consist of different combinations of management actions to highlight tradeoffs associated with different approaches to flood management. The focus in Phase 3 will be on applying place-based management actions to address regional and subregional flood protection needs. As described previously, these are on-the-ground actions that implement or modify physical features or their operations, providing tangible benefits within a region or subregion.

Management actions that are not place-based (focusing on policy or institutional improvements, for example) will continue to be refined and further developed in Phases 3 and 4. They will be combined with regional solution sets in Phase 4 to develop more comprehensive systemwide solutions.

The systemwide solution sets will be evaluated in Phase 4 to highlight important tradeoffs inherent to different approaches in flood management. The outcome of the evaluation will provide the basis for recommendations in the 2012 CVFPP.

The 2012 CVFPP will present a broad plan for future flood management in the Central Valley and a framework for moving forward with improvements to the flood management system over time. While recommendations for next steps and guidance for further defining and implementing future improvements will be included, the 2012 CVFPP will not contain a detailed, on-the-ground flood management plan with clarity in all levels of management actions. Many ongoing FloodSAFE programs and projects are developing new information and new tools that will not be available until after 2012. This new information will contribute to the 2017 CVFPP update and beyond. The staged development of the CVFPP over time is a key consideration in developing a sustainable implementation framework in the 2012 CVFPP. This will include assessing the roles and responsibilities, cost-sharing, and long-term financing of future improvements.

List of Identified and Retained Management Actions

	Place-based?		Place-based?
Additional Floodplain and Reservoir Storage			
Enlarge existing transitory floodplain storage	Y	Perform dredging to remove sediment from channels	Y
Construct new transitory floodplain storage	Y	Reuse excess materials derived from channel maintenance	Y
Increase on-stream flood storage capacity by building new storage facilities	Y	Develop regional channel vegetation management plans	Y
Update/modify/replace existing flood storage facilities	Y	Develop an improved encroachment management program endorsed by the State	N
Increase flood control allocation by expanding existing, on-stream reservoirs	Y	Improve administration and oversight of levee penetrations	N
Increase foothill and upper watershed storage	Y	Improve interior drainage	Y
Increase flood control allocation by using spillway surcharge	Y	Protect vulnerable levees and banks through stabilization and erosion repairs	Y
Increase flood control allocation by expanding existing, or building, new off-stream storage	Y	Revise O&M manuals to be consistent with new and current policies that support multi-benefits of the flood system	N
Storage Operations		Effectively maintain, operate, and rehabilitate closure structures	Y
Establish partnerships to coordinate flood management structure operations	Y	Develop and/or implement structure rehabilitation and repair program	Y
Increase flood management flexibility through modifications to the magnitude/timing of flood reservations in reservoirs	Y	Develop a long-term sustainable and implementable Levee Vegetation Management Strategy	N
Increase flood management flexibility through modifications to objective release schedules at flood management reservoirs	Y	Ecosystem Functions	
Increase flood management flexibility by implementing conjunctive use programs at flood management reservoirs	Y	Manage runoff through watershed management	Y
Implement advanced weather forecast-based operations to increase reservoir management flexibility	Y	Remove unnatural hard points within and along channels	Y
Flood Protection System Modification		Develop hazardous waste and materials management protocols to identify, contain, and remediate potential water quality hazards within floodplains	N
Improve conveyance by addressing flow constrictions	Y	Operate reservoirs with flood reservation space to more closely approximate natural flow regimes	Y
Increase capacity of existing bypasses	Y	Reduce the incidence of invasive species in the flood management system	Y
Modify existing weirs, overflows, or relief structures to improve flood system performance	Y	Remove barriers to fish passage	Y
Construct new bypasses to improve flood system performance	Y	Setback levees to connect rivers to floodplains	Y
Construct new levees to provide flood protection to additional areas potentially affected by flooding	Y	Restore channel alignment (i.e., conduct de-channelization)	Y
Raise levees to improve flood system performance	Y	Encourage natural physical geomorphic processes, including channel migration and sediment transport	Y
Construct setback levees	Y	Improve the quality, quantity, and connectivity of floodplain, wetland, riparian, woodland, grassland, and other native habitat communities	Y
Construct ring levees	Y	Floodplain Management	
Improve structural performance and resilience of existing levees	Y	Reduce flood damages through acquisitions, easements, and private conservation programs	Y
Construct closure structures	Y	Manage municipal stormwater to provide regional or systemwide flood benefits	Y
Remove and/or deauthorize disconnected, redundant, and nonfunctional facilities of the SPFC	Y	Coordinate and streamline floodplain mapping to improve consistency of floodplain delineation and assessment of flood risk	N
Operations and Maintenance		Increase flood risk awareness through outreach and education	N
Restore channel form and function to improve O&M and facilitate flood damage reduction	Y		
Perform clearing and snagging within channels	Y		

	Place-based?
Provide technical procedural assistance to local agencies for flood mitigation compliance and grant application assistance	N
Assist in development of local flood management plan updates and provide procedural and technical support for implementation	N
Facilitate increased awareness of and participation in the Community Rating System insurance-rate adjusting program	N
Develop mandatory flood insurance programs that are more consistent with the area's risk of flooding	N
Increase public understanding of FEMA maps and policies	N
Develop a State program and framework to reduce or eliminate subsidies for repetitive loss properties in flood-prone areas	N
Construct training levees or levees that subdivide larger basins	N
Use floodproofing measures	Y
Improve awareness of floodplain function through outreach and education	Y

Disaster Preparedness and Flood Warning

Coordinate flood response planning and clarify roles and responsibilities related to flood preparedness and emergency response	N
Improve communication and public awareness of emergency response procedures and terminology	N
Establish standard flood warning systems and procedures	N
Improve stream gage network for forecasting purposes	N
Create systemwide levee instrumentation for early warning systems	N

Flood Fighting, Emergency Response, and Flood Recovery

Protect critical infrastructure corridors from floodwaters	Y
Expand the State's assistance to maintaining agencies during flood emergencies	N
Facilitate improved evacuation planning	N
Develop a post-flood recovery plan for the Central Valley and Delta to improve the coordination and efficiency of post-flood assistance	N
Streamline the post-flood permitting process for flood system repairs	N
Purchase and pre-position flood fighting materials/tools in preparation for a flood event	Y
Integrate environmental compliance and mitigation into the flood fight	N

Policy and Regulations

Encourage compatible land uses with flood management system and floodplain function	N
Establish clear triggers or policy for updating flood management-related General Plan elements and other local flood management plan(s)	N

	Place-based?
Update State's designated floodway program	N
Use Building Standards Code amendments to reduce consequence of flooding	N
Update the State's floodplain management policy	N
Encourage multi-jurisdictional and regional partnerships on flood planning and improve agency coordination on flood management activities, including O&M, repair, and restoration	N
Develop and implement State criteria and processes for urban flood protection	N
Develop and implement flood protection criteria outside urban areas	N
Update State Title 23 standards	N
Clarify flood management responsibilities for all local, regional, State, and federal agencies	N

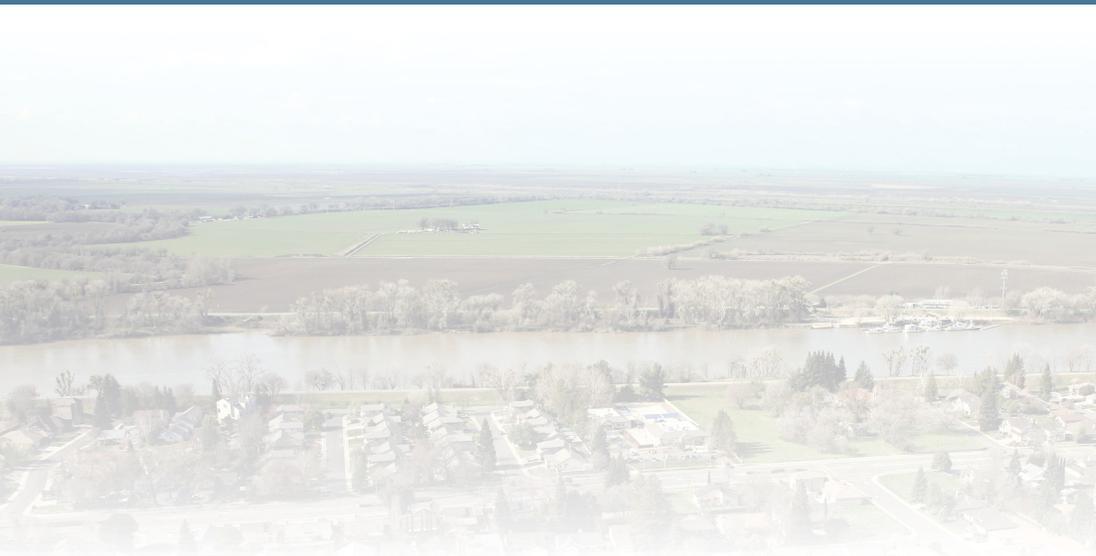
Permitting

Develop regional and river-corridor conservation plans, or expand existing regional conservation plans (e.g., regional Habitat Conservation Plans and Natural Community Conservation Plans) to provide a more efficient and effective regulatory approval process for flood projects	N
Develop regional advanced mitigation strategies and promote networks of both public and private mitigation banks to meet the needs of flood and other public infrastructure projects	N
Develop proactive integrated regulatory compliance strategies that streamlines permitting activities	N
Establish memoranda of understanding and/or management agreements between agencies to integrate the needs to be served by the flood control system	N
Provide technical assistance and education on environmental permits	N
Develop and implement Corridor Management Strategy	N

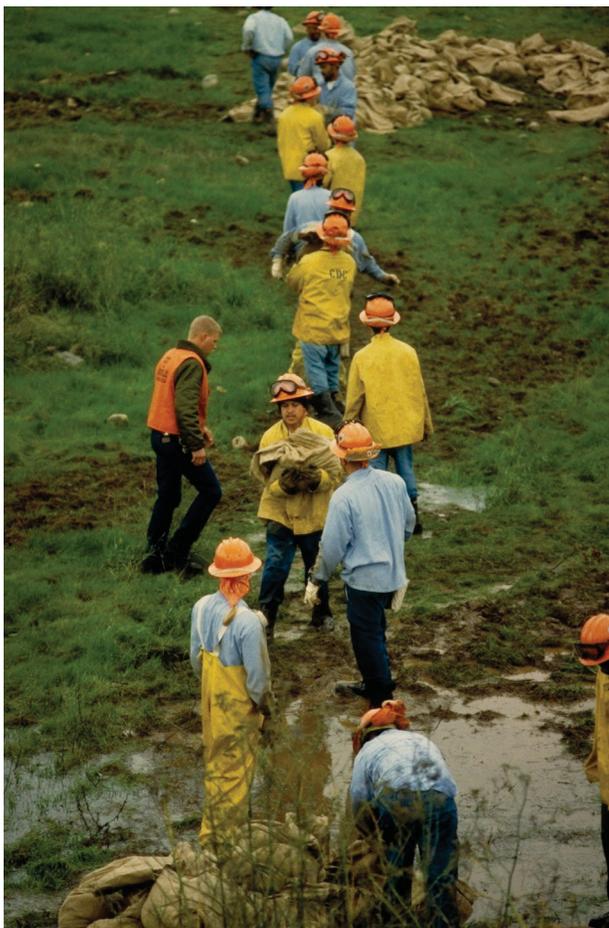
Finance and Revenue

Maximize funding for flood management projects by leveraging federal funding	N
Leverage funding from multiple projects to improve cost-effectiveness and efficiency of flood management projects	N
Develop funding mechanism for O&M and new flood management improvements	N
Establish a methodology for evaluating benefits and costs on a systemwide basis to support economic justification for projects in all community settings	N
Create a shared strategic pooled money account that pre-funds avoidance/mitigation solutions for O&M impacts on current and future flood facilities	N
Create a strategic pooled money account that provides funds for land stewardship activities at current and future flood-related mitigation areas in perpetuity	N

Category
 Management Actions



To find out more about CVFPP development and how to participate, please visit www.water.ca.gov/cvfmp or contact the team by e-mail: cvfmp@water.ca.gov



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